Expansion Systems, warrants the DataFlyer interface and chassis against defects for a period of one year from the date of original (retail) purchase. Expansion Systems will repair or (at its option) replace this product during the warranty period provided the product has not been damaged by accident, abuse or misuse.

Hard disk drives will be covered with a seperate warranty provided with the unit.

The foregoing constitutes the sole warranty of Expansion Systems and all warranties of merchantability and fitness are hereby excluded to the extent permissable by law; or if such exclusion is prohibited by any federal, state, or municipal law which cannot be preempted, are hereby limited to ONE YEAR from original retail purchase of this product. Incidental or consequential damages resulting from a breach of any applicable express or implied warranties are hereby excluded.

This warranty gives you specific legal rights. You may also have other rights which vary from state to state.

Expansion Systems
44862 Osgood Road
Fremont CA 94539 USA

EXPANSION SYSTEMS

DataFlyer™

USERS MANUAL

DataFlyer 500
DataFlyer 1000
DataFlyer 2000

EXPANSION SYSTEMS

TABLE OF CONTENTS

INTRODUCTION

Congratulations on your purchase of the DataFlyer SCSI controller. The DataFlyer offers great performance at a cost attractive to the price conscious customer. The all new autobooting controller features speed equal to 80% of the worlds controllers at a better 'Byte per Buck'. The DataFlyer recognizes almost any SCSI drive and has the ability to customize the formating if required. The DataFlyer was also designed to be easy to use. The AUTO INSTALLING software takes the hassle out of formating the hard drive because the DataFlyer does it all for you automatically. If you need more memory the DataFlyer can accept a memory board with up to 8 megabytes that just plugs onto the memory header located on the printed circuit board. Adding the DataFlyer to your Amiga system greatly enhances the storage capacity and overall performance of the system. With these new capabilities we wish you great computing.

PLEASE READ THIS

Quick Format Instructions
Some people have installed this type of hardware and want to skip all the reading. If you have installed the DataFlyer into the A2000 or onto the A500 and are ready to format the DataFlyer, please do the following:

1. Make a copy of the DataFlyer Auto-Install disk
2. Boot the Amiga with the copy in DF0:. **WAIT FOR 60 SECOND DELAY** after turning on the power.
3. Select the Install-HD icon in the Workbench screen.
4. Answer the questions.
5. Remove the disk in df0: and reboot your machine.

Your DataFlyer will have autobooted and you are ready to install your programs. See the section Using your DataFlyer.

INSTALLING THE HARDWARE

Configuring the DataFlyer
There are 5 jumpers that are used to configure the DataFlyer. The descriptions and their settings are shown below:

1.3 = KickStart 1.2 or 1.3 Jumper. The factory setting is installed. If you have AutoBoot ROM Rev. 2.0 and wish to have a non autobooting drive using KickStart 1.2 remove this jumper.

+5 EN=+5 Volts Enabled. When this jumper is installed the DataFlyer receives its power from the A500 expansion bus. When removed the power is from the memory board.

SEN=Sense header. This is for a connector from the optional power supply. It provides the 5V from the A500 to turn on the optional power supply.

Cx Config jumper. This shorts the config in and config out (pins 11 and 12) on the 86 pin bus. The shorting of these pins passes the configuration signal to the next slot. This jumper is to remain in place unless there is a memory board installed.

S = Slave jumper. This is always installed if the DataFlyer does not have a memory attached to the memory header.

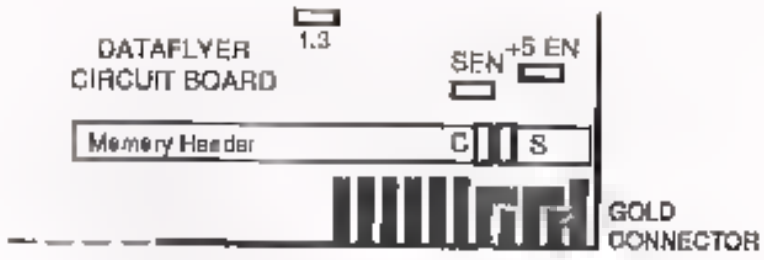

Diagram A
Configuration Jumper Positions

A500 DataFlyer
To assemble the DataFlyer hard drive and attach it to your A500 follow these steps:

1. Remove the metal cover from the DataFlyer by removing the 4 screws located at the front and rear of the chassis.

2. Inside you will see the DataFlyer interface card, the 86 pin connector to the Amiga and toward the rear 4 standoffs and holes on the base of the chassis. From the hardware package remove the 4 screws. Placing the chassis on its side install the screws from the bottom through the standoff and up to the bottom of the drive mounting hole. Do this 4 times. Make these screws snug but do not over tighten. Be sure the 50 pin connector portion of the drive is facing the interface or the front of the unit.

3. Remove the 4 inch 50 pin SCSI flat ribbon cable. This cable connects the drive to the DataFlyer interface. One side is attached to the 50 pin connector on the hard drive and the other is attached to the 50 pin header on the DataFlyer interface. This cable must connect pin 1 of the interface to pin 1 of the drive. One way to check is to locate the 50 pin header on the interface. It will have pin 1 and 2 indicated on the surface of the board. The red lead on the cable (see Diagram C) indicates pin one of the cable end they should be on the same side. This is regardless of whether the cable has strain relief or not. It must be installed correctly or damage may result. See SCSI Cable in the General Information section of this manual.

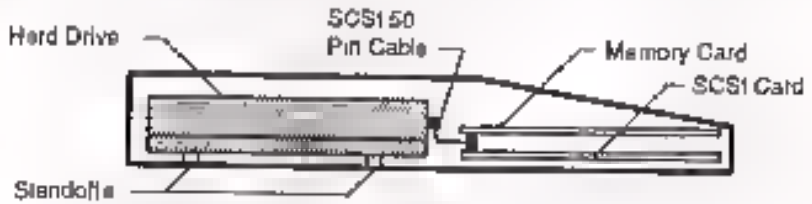

Diagram B
DataFlyer 500

> Warning: The 50 pin 4 inch ribbon cable must be installed correctly or you may damage your hard drive or interface.

4. Attach the LED connector from the cover to the 2 pin header labeled 'SEL'.

5. Next attach the power cable to the drive. This cable is attached to the interface and terminates in a 4 position white (female) connector. This connector which has three wires should be placed into the 4 position (male) connector on the hard drive. You will notice that both ends of the connectors are shaped like a "D". This is to prohibit plugging it in backward. Be sure the connector is pushed in as far as it will go. See Diagram D.

Diagram C
SCSI Cable

Diagram D
4 Pin Power Connector
End View

6. Now replace the cover using the 4 screws that were removed.

7. Turn on the power to the A500.

8. Remove the plastic expansion bus cover from the A500. It is found on the left hand side of the computer. It snaps in place. Behind it is the 86 pin Amiga expansion bus that the DataFlyer must plug onto. This gives it access to the computer and its operating system.

9. Align the DataFlyer 86 pin (female) connector with the Amiga (card edge) expansion bus. When you are sure they are aligned properly press firmly with one hand located on the opposite (outside) side of the chassis and the other holding the computer in place. The DataFlyer chassis should be touching at very sides to the case of the Amiga when installed. See Diagram E.

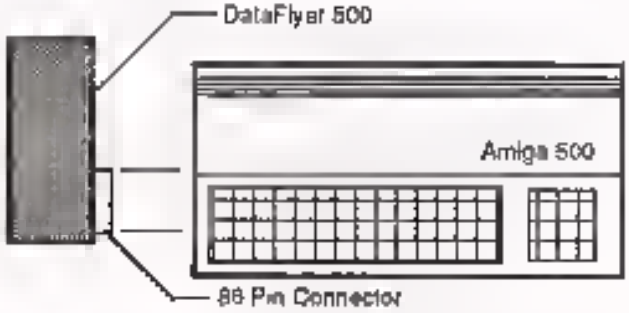

Diagram E

A2000 DataFlyer
To install the DataFlyer hard drive into your A2000 computer follow these steps:

Configuring the DataFlyer
To configure the DataFlyer to your system see the section Configuring the DataFlyer and Diagram A on pages 1 and 2 of this manual.

Installed as a hard card,
a. Attach the 3.5 inch hard drive to the interface by using the 4 standoffs and screws provided. Place the standoffs between the drive and the interface. Check that the screw is not too long and touches the circuit board of your drive. Be sure the drives 50 pin SCSI connector is toward the 50 pin header on the DataFlyer. See Diagram E.

2. Remove the 4 inch 50 pin SCSI flat ribbon cable. This cable connects the drive to the DataFlyer interface. One side is attached to the 50 pin connector on the hard drive and the other is attached to the 50 pin header on the DataFlyer interface. This cable must connect pin 1 of the interface to pin 1 of the drive. One way to check is to locate the 50 pin header on the interface. It will have pin 1 and 2 indicated on the surface of the board. The red lead on the cable (see Diagram C) indicates pin one of the cable and they should be on the same side. This is regardless of whether the cable has strain relief or not. It must be installed correctly or damage may result. See SCSI Cable in the General Information section of this manual.

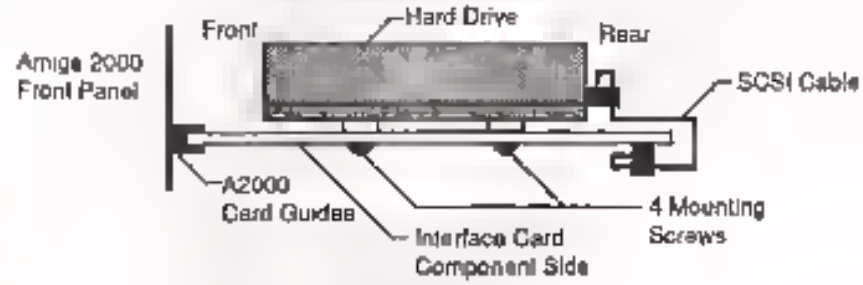

Diagram F
Mounting Hard Drive Onto Interface in The A2000

Warning. The 50 pin 4 inch ribbon cable must be installed correctly or you may damage your hard drive or interface.

3. Next attach the power cable to the drive. This cable is attached to the interface and terminates in a 4 position white (female) connector. This connector which has three wires should be placed into the 4 position (male) connector on the hard drive. You will notice that both ends of the connectors are shaped like a "D". This is to prohibit plugging it in backward. Be sure the connector is pushed in as far as it will go. See Diagram D.

Installed in the drive bay,
The 3.5 inch hard drive can also be installed in the empty drive bay. If this is desired you must obtain a longer 50 pin SCSI cable. These are available as the optional cable kit described in the options section of this manual. However this cable is standard and most dealers (both IBM and Amiga) should have them. If you have chosen to mount your DataFlyer into the drive bay use the Amigas 4 pin power connector (not the DataFlyer's) and attach it to the power connector of the hard drive as described previously.

Note: The DataFlyer has several component positions that are designated and not filled or installed. There are two versions of the DataFlyer interface that share the same printed circuit board. This saves you money and allows you the opportunity to upgrade. See the General Information Section of this manual

Installing the Interface

1. Turn off the power to the A2000

2. Remove the 5 screws that hold the cover in place and lift it off.

3. Looking down over the computer you can see the Amiga and IBM expansion slots. The DataFlyer interface will be placed into one of the empty Amiga slots. If you have configured your drive as a hard card with the drive on the rear of the card place the DataFlyer unit into the last slot. If you are using the optional rail kit place it in the first slot. This keeps the width of the drive from using two slots. If all the slots are empty and this is not an issue then it may be placed in any slot. If you placed the hard drive in the bay then the interface can be placed in any slot. Check the manuals of your other cards to determine if there is a preferred slot or order.

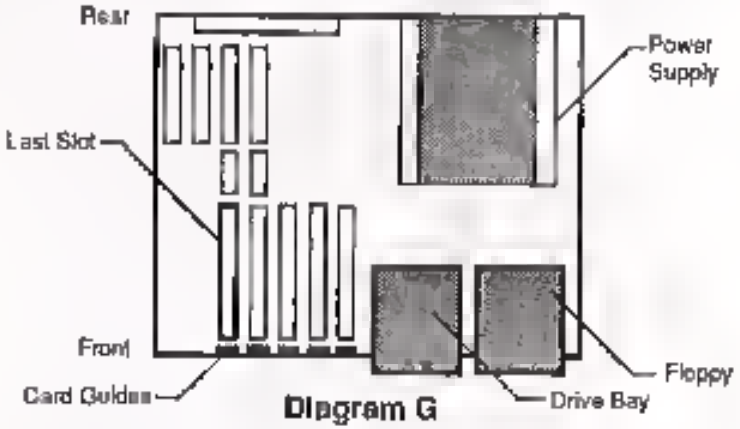

Diagram G
Amiga 200 Top View

4. Orient the interface with the front of the interface sliding into the plastic card guide in the front of the A2000 and the gold card edge connector of the interface into the expansion slot. When you are sure of the alignment press down firmly onto the top of the card. The interface card should be seated completely into the slot.

5. Attach the LED connector from the Amiga to the 2 pin "SEL" header on the top left hand corner of the interface. The connector from the Amiga has a 3 pin connector with 2 wires. Be sure that the 2 pins from the header are connected to the 2 positions that have wires. When your drive is booting look for the LED light to flash on and off. If the light does not flash then you must reverse the polarity of the pins. This is done by disconnecting the 2 pin header and reversing the connections.

FORMATTING THE DRIVE

One of the major features of the DataFlyer is the easy formatting software. There was a time that you purchased a drive and had to wade through tons of information just to get it formatted. Now the DataFlyer makes it as automatic as it can be made. Lets assume you have a Quantum 40 megabyte drive attached to the DataFlyer and we want 2 partitions. Look in your hard drive manual and be sure that the unit number of the drive is between 0 and 6.

Running the DataFlyer Installation Program
To format your drive perform the following:
1. Make a copy of the original Auto-Install disk

Place the Auto-Install disk in df0: and turn on the power to your Amiga. There will be a 60 second delay where nothing appears to be occurring - be patient. This will only occur when formatting a new drive. Soon it will alert to load the Auto-Install disk and the familiar Workbench screen will appear.

PLEASE READ THIS

The first time you format your drive there will be a one time 60 second delay when powering up the computer.

2. Open the Auto-Install disk window and select or click twice the Install-HD icon.

3. A window will appear on the screen and the "DataFlyer hard drive installation program" will start. In the following the "XXX" designates what is printed on the screen.

The Program will type:
"Do you want to set DH0, Auto-Boot On Y/N"

Type in "Y" and hit return. Then:
"Listing all SCSI devices"

Our Quantum will be listed:
"SCSI unit [0] present - Quantum P40S 940-40-94XXA-2"
"Choose SCSI UNIT to format (0-6)"

Type in "0" and hit return. Then:
"Choose interleave factor (1-5, 3 is standard)

Type in "3" and hit return. Then
"How many DOS partitions do you want. (1-12, 1 is standard)"

Type in "2" and hit return. Then
"Enter % (percent) of drive for partition 0"

Type in "70" and hit return. Then:
"Enter % (percent) of drive for partition 1"

Type in "30" and hit return. Then:
"Partition 0 -> 25meg"
"Partition 1 -> 16meg"
"Drive total 41meg" (Numbers approximate due to rounding)
"Do you accept these parameters ? Y/N"

Type "y" and hit return. Then:
"Do you want to use Fast File System. (y/n)

Type "y" and hit return. Then:
"Enter Volume designator (DH is standard and required for Auto-boot"

Type "DH" and hit return. (DO NOT TYPE DH0:) Then:
"Continuing further will DESTROY all data on the hard drive." Do you wish to continue to format and prep unit [0] (y/n)"

Type "y" and hit return. Then you will see:
"Formatting"
"Format complete"
"Creating mountlist entries"
"Mounting partitions"
"DH0:"
"DH1:"

The actual formatting will depend on your drive. Our Quantum will take a few seconds. Some drives may take as long as several minutes. Then the program will automatically copy Workbench from DF0: to the first partition (DH0:). This will take about 3 minutes. Then the program will print:

"Program finished"
"Remove disk and reboot"

Your done. Now see the section on Using your DataFlyer to copy your software programs over to the hard drive and take advantage of the increased speed and performance. Remember that each program has its individual requirements and reading that section is necessary. It may save you a lot of time.

For additional formatting or customizing information see the section Customized Configurations in this manual.

REMOVE THE FORMAT ICONS FROM THE WINDOW OF DH0: SEE GENERAL INFORMATION SECTION

USING YOUR DATAFLYER

General Information on Hard Drives

Your hard disk drive may be accessed by your programs or by you just as the floppy drives are used. While your first floppy drive is known as unit DF0: (drive, floppy, unit zero) your first hard disk drive is known as DH0: (drive, hard, unit zero). One physical hard disk drive may be partitioned into two or more logical disk drives, and accessed as DH0:, DH1:, and so on.

The DataFlyer format sequence will ask you how many partitions you want and all that is required is to enter the number. We suggest you try two partitions until you become familiar with your specific requirements.

Setting up and taking advantage of your new DataFlyer hard drive is greatly enhanced if you have a working knowledge of Shell or CLI for the AmigaDOS operating system.

Hard disk disadvantages are few, but important. The disk itself is fragile. Because of this most of the newer drives automatically park the heads when the power is turned off. This is done to protect the drive if it suffers a shock like being dropped onto a table. In such a case the read/write heads could touch the magnetic platters inside the drive and scratch the surface of the platters, making the disk unusable and requiring repair. You would lose all data stored on the disk if that were to happen.

Even with autoparking headers it is advisable to exercise caution when handling the drive. Also the storage medium is generally not removable like a floppy disk. However, if this is important there are drives that have removable media such as the Syquest. The DataFlyer is also compatible with these types of drives. Finally, the drive is physically larger and heavier than a floppy disk drive.

Do's and Don'ts of Using a Hard Drive

DO back up the data on your hard disk drive often. We recommend a commercial backup program like QuarterBack. There are few lower feelings than just realizing you have to reformat your drive and it isn't backed up. You may not believe it right now but this is the most important paragraph in this manual.

DO read all of your instruction manual.

DO allow the hard disk to rebuild its internal file structure at power on. Occasionally, the software in the drive will detect confusion about free sectors and file chains. The drive light may flash for several minutes as the drive does its housekeeping. Let the drive continue...the pause is annoying, but necessary. Don't turn the power off or attempt to reboot your computer after accessing the hard disk drive for any reason. This is critical, ALL DATA COULD BE LOST if AmigaDOS has not completed updating necessary files on the hard disk. This may not be complete even though it appears that all activity is finished. Wait at least 25 seconds after the last command was given the hard drive before turning off or rebooting. Again, if this is not followed your your drive may need to be reformatted and your DATA COULD BE LOST. This is a very annoying problem with the multitasking AmigaDOS and not a result of the DataFlyer.

DON'T subject your hard disk to physical shocks...ever. A drop of one inch onto a table top can severely damage your hard disk. Great care should be taken to use the original shipper when shipping or transporting your drive.

DON'T block the ventilation slots in the top or bottom of your hard disk drive. Place it on a smooth, hard surface ..such as a desk top. Don't set books or disks on top of your drive.

DON'T touch the exposed connections on your computer, SCSI controller or the bottom exposed portion of the hard drive.

Auto-Booting

The auto-booting function will work only with a Kickstart 1.3 in the A500 or A2000. You can determine the version of the Kickstart ROM by booting the computer without a disk in df0:. If it asks for Workbench 1.3 then the Kickstart version is 1.3 if it asks for Workbench 1.2 then your Kickstart is version 1.2. If you wish to defeat the auto-booting just hold down the left mouse button during the boot sequence. See Configuring the DataFlyer in this manual.

Installing Software on Your Hard Drive

Great care must be taken when transferring your software programs from their original floppy program disk to the hard drive. This is something that must be done exactly per the individual

programs requirements. The good news is it only has to be done once. Because of this most software manufacturers will provide a hard drive installation program that takes care of their programs individual requirements. It is impossible, I am sure you will agree, for our customer service people to be familiar with all the software programs and their specific needs.

> QUESTIONS CONCERNING THE INSTALLATION OF SOFTWARE PROGRAMS ONTO THE HARD DRIVE ARE BEST ANSWERED BY THE MANUFACTURER OF THE SOFTWARE.

If your software does not include specific instructions or an installation program, some general guidelines may help.

Generally, simply moving the program icons to the hard drive window will not work. Most programs will have files (without icons) which are required for the program to run. Also, an ASSIGN statement will generally be required in the startup-sequence (located in the S directory to set the required volume name to the hard disk.

The CLI command COPY DF0: to DH0: ALL will transfer all the files but will move some files such as the startup-sequence which should not actually be changed on the hard disk. Further, the volume name must still be added to the startup-sequence to set the correct directory.

The above copy command may be used if a new directory is created on the hard disk, but it still puts all the files into one directory...even those which should be moved to other directories to make segments of the program work with other programs and peripherals. The volume name remains a problem.

The best way to install a program is to follow the instructions given by the program's author or manufacturer. But if the program has no instructions for use on a hard drive, the end user (you) must take the responsibility of examining the files on floppy disk, creating appropriate directories, and then copying the programs and files to the various directories. This may take some time. An example follows:
The program is DELUX PAINT II, from Electronic Arts.
DP II Key Disk:
Create a new drawer on the hard disk.
Copy the Lo-Res and Brush drawers and their contents to the new drawer.
Copy the Hi-Res and Interface drawers to the new drawer. Copy Dpaint and Dpaint.info to the new drawer.
DP II Art Disk:
Copy the Med-Res drawer and its contents into the new drawer.
Copy the contents of the Brush and Lo-Res drawers to their new drawers.

And then:
Determine whether you will need the files Path, c/SetMap, and devs/Printer and install them in the appropriate directories, if you need them.

Add the command "ASSIGN DPAINT:"pathname" to the boot disk startup-sequence, where pathname is the directory route to the Dpaint II drawer (for example, dh0 Dpaint or dh0:Graphics/Dpaint).

The previous section appeared, in more detail, as: Getting Software to Run on Hard Disks, by Michael Colligon, Amiga Mail.

Cleaning Up the Screen

If your hard disk drive starts with a large number of icons seemingly stacked one on top of the other in a too-small window, move things around with the following procedure:

First, use the left mouse button and increase the window size with the sizing gadget in the lower right corner of the window. Use the right mouse button, and select snapshot from the Special menu in the top line of the screen display.

Then, one at a time, drag the icons you wish to move to their new locations in the window. After moving each icon, select snapshot again. When you are satisfied, close the window and re-open it. Your icons will be placed where you left them.

An alternative method allows the operating system to determine which icons go where on the screen. Enlarge the window with the sizing gadget and then select cleanup from the Special menu. Hold a SHIFT key down, move the mouse pointer to each icon, and select the icon with the left mouse button. When all icons are selected, release the SHIFT key and select snapshot from the Special menu.

TROUBLESHOOTING

General Hints

Troubleshooting theory is based on 3 basic methods:
1. Isolating the problem.
Do one thing at a time. If it works, go onto the next. If it doesn't, the chances are the problem is isolated in the last step. Examine it carefully. Build on what you know works.

> CHANGE ONE THING AT A TIME. IF YOU CHANGE FIVE THINGS YOU HAVE FIVE PLACES TO LOOK FOR PROBLEMS.

How many elements are there? Test them individually. Substitute if possible. If your DataFlyer works on a similar A500 we can suppose it is your machine. If it doesn't work on a friends then it is isolated to the hard drive or modifications to the hard drive like the startup-sequence.

2. Backup Backup Backup Backup
If we are to build on what we know works we must be able to get back to what was last working. Before you change anything, can you recreate what you have working now? Do you have a copy or know the configuration of what was working. This is especially true in the early stages of learning how to use a hard drive. This is also true in using the floppy but with a hard drive it becomes very painful because of the amount of data at risk.

> BACKUP ANYTHING YOU PLAN TO CHANGE THAT MAY CAUSE TROUBLE. ESPECIALLY THE STARTUP-SEQUENCE

3. Document your search.
What have you tried? When there are combinations it become difficult to recall what worked and what didn't. This will also save time if there are several elements as you will not be trying the same things more then once. Keep these notes when calling customer service.

General Problems

Booting
If the screen is blank without even a Workbench request then you might have 1.2 version of Kickstart. Auto-boot will only work with version 1.3 of Kickstart. Remove the jumper designated "1.3" and in the format sequence choose "NO" when asked "Do you want to set DH0: Auto-Boot On Y/N".

Hangs while booting.
Did you change your startup-sequence? If yes replace the changed file with the original that worked. Isolate what was changed and look at that command for anything that is incorrect.

Unusual LED or drive activity.
When you power up and the drive light blinks slowly or stays on and the system appears to be very slow in booting....DO NOT REBOOT. AmigaDOS may be validating the disk. This may take anywhere from 1 to 40 minutes depending on the size of the drive and the number of partitions. This can possibly be avoided in the future by waiting 15 seconds for all leaks to complete before turning off the system. Or you may be using a program that is corrupted. The system will soon sort itself out and be back to normal. This is an annoying aspect of AmigaDOS and not the DataFlyer SCSI software. Yes, this was mentioned earlier.

LED light stays on.
After determining that AmigaDOS is not to trying to validate the disk it may mean that the polarity needs to be reversed on the wires going the LED. See the section Installing the Hardware in this manual.

System crashes copying large files.
If you crash while transferring very large files then you probably have run out of RAM memory. You will need to increase the stack size using the CLI STACK command. The system default stack size is 4000. Increase this number to 8000 or 10000 or experiment to find the size that works best for you. From CLI type "Stack 8000" without the quotes and hit return. Increasing the Stack size uses more of your memory. See the Commodore Software Enhancer manual for more information.

DiskDoctor
If you get this message there are real problems. **TRY TO USE DISKDOCTOR AS A LAST RESORT.** Backup or copy all files that can be copied to another partition or to a floppy. After running DiskDoctor you will need to reformat you drive and all data will be lost. This usually means that one of the programs your are using is causing a major problem. What did you change last? Try to isolate to a specific program and stop using that program. This may take time.

A500 Formatting
If your drive is new and you receive an error code when the drive was being mounted, quickly turn the power off and on. This will reset the drive. The initial power surge required to spin up a totally new drive may have exceeded the amount available. Resetting the drive without

it spinning all the way down will allow the drives internal tests to clear it to be formatted. This should not occur after the initial attempt. Also be sure your drive is at room temperature before trying to format the unit.

Optimizing your drive.
Backup-Backup-Backup the information on your drive before optimizing. This is an unstable operation at best. If you are using Quarterback be sure you have the latest revision. There have been as many as 18. The trouble when optimizing an autobooting drive is that it optimizes the boot partition as well. BEFORE REBOOTING you must reset autoboot. From Shell or CLI type "SetAutoboot On" and hit return. Or make DH0: a small partition to hold the boot information and keep all the other information DH1:. Then only optimize DH1:

Software problems
The most common problem with a new hard drive is the incorrect installation of the owners programs. With few exceptions the hard drive does not discriminate between programs. Build on what we know works. If the drive formatted correctly and the Workbench that was copied to the first partition opens and operates correctly then the chances are great we have a working drive. If it did not go through the formatting sequence see Hardware Problems in this section.

From this base add one program at a time. Test each and be convinced that it is operating properly through boot and read/write tests. Then go onto the next program. If the system reads and writes correctly with one program and does not with another then the chances are great the problem is isolated to the non functioning program.

> IF A PROBLEM CAN BE ISOLATED TO THE LAST PROGRAM ADDED CALL THE AUTHOR OR MANUFACTURER OF THAT PROGRAM FOR HARD DRIVE INSTALLATION INSTRUCTIONS.

If you feel that the drive is not operating correctly with the standard Workbench program that is installed with the prep program then call customer service.

Hardware Problems
Before doing anything else check all connections and cables. On the A500 be sure the interface is securely connected to the Amiga bus. The chassis can be against the computer case and still have missed the connection that is inside and out of sight. Check the connectors to be sure they are clean and make a solid connection. On the A2000 check to see if the interface is seated all the way into the 100 pin expansion slot. Is the SCSI cable connected per the instructions?

Remove all peripherals that are connected to the machine and add them back one at a time. Test each individually as it is added onto the computer.

Try your DataFlyer drive on another computer. If it works, look for what is different with your computer or it may be defective. The bus can be defective and the rest of the computer can operate correctly.

If it does not work on another computer try to isolate it to either the hard drive mechanism or the interface. If possible try the hard drive on another interface and the DataFlyer interface with another drive. If it is the hard drive mechanism it must be replaced. However, if it is the interface call customer service.

CUSTOMIZED CONFIGURATIONS

Amaxii Driver
Version 1.7.7 or higher of the DataFlyer software includes a special driver developed to run the Amaxii software. It is found in the DEVS directory as "ExpSys.amhd". To create an Amaxii partition on your hard drive please complete the steps described below. We are not in a position to perfect your use of Amaxii. However, we will do the best we can to get your partition up and running.

Amaxii

1. Format your hard drive with two Fast File partitions. One for the Amax and one for the Amiga DOS per the format sequence. Call them both "DH" as suggested in the format or prep sequence. Our intention is to make the second partition the Amax partition.

2. After removing the Auto-Install disk and rebooting from the hard drive you will need to make some changes. Using the AmigaDOS editor go to the DEVS:mountlist file of DH0:. Move your cursor down to the second partition or DH1: and rename it from DH1: to AMAX:. In the same mountlist that is now called AMAX: be sure that the "mount=0" entry says "0" not "1". If it doesn't then make the change. To edit the file type the following:

ed dh0: [return]
ed devs/mountlist [return]

You will get some screen activity and the mountlist will appear on the screen. Using the up/down arrows and backspace keys make the modifications described above. To exit the editor and write the new information to the file type:
esc x [return] (hit the escape key then the x key then hit return)

You are now back to the shell screen.

3. Copy the entire "mountlist" file (the one just edited) in the DEVS: directory of DH0: over to the DEVS: directory of a COPY of the DataFlyer Auto-Install disk located in DF0:.

4. Now power down and reboot holding down the left mouse button. This will cause you to boot from DF0: and defeat the auto-boot function.

5. You are now booted with the modified copy (different mountlist) of the Auto-Install disk still in DF0:, double click the Auto-Install disk and open a Shell window and type the following:

mount DH0: [return]
cd DH0: [return]
deldisk DH0: [return]
Setautoboot On [return]

6. Remove the floppy, power down and autoboot from the hard drive. You should have DH0:: mounted. If you wish to run your Amax software you must open Shell and manually mount the Amax partition. From Shell type the following:

mount AMAX: [return]

Then follow the instructions that are in your Amax manual.

Note do not use the Auto-Install disk that you just modified to format any other hard disk.

Formatting Multiple Drives
Attach the drive either on the 25 pin expansion connector or in series with the existing 50 pin ribbon cable. When you run the format routine it will notify you of the existence of the new unit and select that unit to be formatted. Answer the questions as indicated in the format section.

Manually Formatting the Drive.
1. Create a Mountlist.
Copy the AutoInstall disk. Modify the mountlist located in the Devs directory by changing the Fast: entry to DH0:. Also change the surface, Blocks per track and low and high cylinder information to match your drive. Remember that 0 to 9 cylinders is a total of 10 cylinders. Save this information onto df0:

2. Low Level Format Drive.
Boot the system with the modified DataFlyer AutoInstall disk in drive df0:. Enlarge the window to expose the icon "FormatHD". Click this icon to low level format drive.

3. AmigaDOS or High Level Format Drive.
From shell type the following instructions:

Mount DH0: [return]
System/format drive DH0: name "mydrive" quick [return]
Copy DF0: to DH0: all [return]
cd DH0: [return]
defdisk DH0: [return]
Setautoboot On [return]

That's it. Remove the disk in df0: and reboot the system.

Surviving a Crashed Partition
If you have 3 partitions and only want to re-format one of them, do the following:

1. Autoboot the machine as you would normally.
2. From shell type the following instructions to high level format the drive:

System/format drive dh2: name "mydrive" quick [return]

In the above if you have two partitions and you are only formatting the second then use "dh1:" instead of "dh2" etc. A low level format should not be required.

Things are a little different if it is the first or boot partition that needs to be formatted. Holding down the left mouse button boot the machine with the AutoInstall disk in df0:. When the disk has started to load and the copywrite information is on the screen type the following:

ctrl d (this breaks the startup sequence)
mount DH0: [return]
system/format drive dh0: name "mydrive" quick [return]
copy df0: to dh0: all [return]
cd dh0: [return]
deldisk dh0: [return]
Setautoboot On [return]

That's it. Remove the disk in df0: and reboot the system.

How to modify mountlist information.
If you wish to modify the mountlist information from the information that was created by the format program you must do the following. Create a new mountlist, reformat (high and low) the drive using the new information and reset the autoboot.

1. Back up the information on your hard drive.

2. Autoboot your system from your hard drive normally. After it has booted insert a COPY of the Auto-Install disk in df0:. Open a Shell window. To edit the mountlist in dh0: (which contains your current devs/mountlist information) type the following from shell.

cd dh0: [Return]
ed devs/mountlist [Return]

3. A new screen will appear and there will be some screen activity. Using the up down arrows and backspace key find the mountlist for "DH0:" and make the desired changes to the mountlist. There will be several mountlists and other information to scroll through. To write the new information onto dh0: and exit the editor hit the "ESC", the letter "X" and [Return] keys in succession as shown below. The disk activity light on dh0: will briefly turn on.

ESC
X [Return]

4. To write the new mountlist information from dh0: to the devs/mountlist file on the Auto-Install disk in df0, type the following:

copy dh0:devs/mountlist to df0 devs/mountlist [Return]

5. With the modified copy of the Auto-Install disk still in df0:, power down and reboot holding down the left mouse button. Your machine will boot from the modified Auto-Install disk in df0: and not from the hard drive. The hard drive has now read the new mountlist information from the disk located in df0:, even though it is not mounted. We now need to permanently store onto the hard drive the new autoboot information. To do this double click the Auto-Install disk, open a Shell window and type the following:

mount DH0: [return]
cd DH0: [return]
deldisk DH0: [return]
Setautoboot On [return]

6. Wait 10 seconds for the activity light on the hard drive to go off. That's it. Remove the Auto-Install disk from df0, and reboot.

Your hard drive will now autoboot using the new information.

OPTIONS

For detailed information on the options available refer to the literature included in the box. The products are available from your dealer. If your dealer does not carry what you want you may purchase directly from Expansion Systems. Call 415 856-2890 or Fax 415 856-5131 for more information.

DATAFLYER RAM Suggested Retail $129.00 U.S.D.
An optional memory board is available for the DataFlyer interface and will provide up to 8 megabytes of increased fast memory. In the DataFlyer 500 it mounts on the memory header and fits neatly inside the chassis. In an Amiga 2000 it will plug onto the memory header saving one slot or can be placed into one of the empty slots. The memory board uses SIMM module type memory. Yes, you can install it yourself without any fear of bent pins. If you use 256X8 type memory you can expand in increments of 1/2, 1, or 2 megabytes of memory. If your use 1 MbX8 then you can expand in increments of 2, 4 or 8 megabytes. The memory card can be externally powered if required via one of the two optional power supplies available.

POWER SUPPLIES
If you have the DataFlyer 500 the interface (almost) all 3.5 inch hard disks can be powered from the expansion bus if you are running one extra floppy drive and a low power Base Board memory expansion. Depending on the type and number of peripherals attached to the A500 it may become advantageous to power the DataFlyer 500 separately. To do this we offer two power supplies. One is internal and meant to power everything and one is external and meant to power only the memory board.

DATAFLYER 500 POWER SUPPLY Suggested Retail $69.00 U.S.D.
The DataFlyer 500 power supply mounts internally and will power the DataFlyer Plus Rev.1.0 card, The DataFlyer RAM and a 3.5 inch hard drive. This switcher supply turns on automatically when your Amiga is powered up. It is cool running and automatically senses all international input voltages eliminating the need to adjust jumpers.

DATAFLYER RAM POWER SUPPLY Suggested Retail $29.00 U.S.D.
The DataFlyer RAM power supply is an external table mount power supply that is meant to power the memory card only. The international voltage model is slightly more expensive.

Hard Card Rails Suggested Retail $29.00 U.S.D.
Mounting hardware is provided to mount the hard disk on the rear of the DataFlyer interface. Metal rails are also available to mount the hard disk behind the interface and support the assembly from both ends.

SCSI PASS THROUGH Suggested Retail $17.95 U.S.D.
Additional cables for extending the 25 pin SCSI bus to the outside of the DataFlyer 500 or to the outside of the A2000 are available. Up to six devices can be added to the SCSI bus.

POLICY INFORMATION

Registration and Warranty

Please send in your registration card immediately. This must be on file for warranty work to be done.

The Expansion Systems warranty does not cover the hard drive you place in the chassis or mount onto the interface unless purchased directly from Expansion Systems. Please read carefully the warranty located on the back cover of this manual.

Return Policy
Before returning any merchandise you must have a warranty card on file and a Return Authorization Number. This number is obtained from an Expansion Systems customer service representative. Package your product very carefully using the original packaging materials. This is especially important if you are sending a hard disk mechanism. Insure the entire contents for the retail price. Packages without an RA# on the outside of the box will be refused.

If you purchased the DataFlyer interface and/or chassis and purchased the hard disk mechanism from another source you may have to deal with more than one company to get your problem solved. If you agree to have us look at both your interface and the third party hard disk - it is at your own risk. As indicated the hard disk is a sensitive piece of equipment. We cannot be responsible for the condition of the drive when it arrives if it is not packaged properly.

Customer service
The best place to obtain answers to your questions and service is from the dealer where you purchased the product. If you need customer service directly from the manufacturer call #15 656-2890 between 2:00 PM and 5:00 PM Monday through Friday Pacific Standard time. Please have your notes documenting what you have tried and what you have isolated. Also it is best if you are at your computer with it turned on. If you have to call back on a continuing problem try to help the customer service representative by updating them with where you are and what has been done. This will save you time. Your satisfaction with our products is very important to us and every attempt will be made to get you running. However, keep in mind that our responsibility and technical ability lies with getting your drive running. We cannot be familiar with the specific needs of each software program.

GENERAL INFORMATION

*** PLEASE NOTE --- AS OF 9-1-91 OUR PHONE # IS (510) 656 2890.

Remove Format Icons
After you have formatted your drive it is wise to remove the format icons from the screen. In the event they are needed again copies will be available on the Auto-Install disk. Just click the icon, hold down the button while you drag it to the trash can. Do this for both the INSTALL-HD and FORMAT-HD icons. Empty trash from the pull down menu at the top of the Workbench screen.

SCSI Cable Information
The SCSI Cable is a 50 pin ribbon cable that connects the interface to the hard drive. It must connect pin one of the interface with pin one of the drive. This means that the cable must be installed correctly. To insure this most cables use one or all of the following ways to determine pin one of the cable.
1. Locate the raised or embossed portion of the plastic connector. This fits into a corresponding slot in the drive to prevent the cable from being installed upside down.

2. The cable has one lead, that is pin one, colored red.

3 The pin 1 side of the connector may be designated by an arrow embossed into the plastic.

Diagram C
SCSI Cable

Future Upgrades
Expansion Systems is currently working on the DataFlyer Plus. This interface will have both the SCSI and IDE (AT) interfaces on the same card. This allows you to shop for the best deal and purchase either drive. Yes, you will be able to run both at the same time. The interface will not work with EVERY IDE type drive so contact us for a current list. If you wish to upgrade to the DataFlyer Plus contact our office for the upgrade program.

DataFlyer™
Installationsanleitung

1. Konfigurierung und Montage

Wenn sie **Kickstart 1.3** benutzen und automatisch booten wollen, muß der Jumper 1.3 (zwischen den ROM-Bausteinen) gesteckt sein. Soll die Platte mit Kickstart 1.2 als nicht autobootend installiert werden, ziehen sie den Jumper.

+5 EN - Jumper: Wenn dieser Jumper gesteckt ist, erhält die Karte ihre Stromversorgung über den Bus.

SEN - Jumper wird nur bei Einsatz im A500 mit separatem Netzteil benutzt. Normalerweise offen

C - Jumper auf Pin 11 & 12 des 86-Pin Bus: Diese Jumper müssen gesteckt sein, wenn kein Memory board (DataFlyer RAM) auf dem SCSI-Board installiert ist.

S - Jumper: Immer installiert.

Stecken sie das SCSI Flachbandkabel (50-polig) so auf die Pinleiste des Kontrollers, daß die Seite mit der roten Markierung am Kabel auf die Pins 1 & 2 zeigt. Dieses Kabel wird anschließend auf die Festplatte gesteckt, und zwar so, daß die rote Marke auch dort auf Pin 1 & 2 zeigt. Manche Festplatten haben einen Anschluß mit kodiertem Stecker. Wichtig ist, daß Pin 1 vom Kontroller mit Pin 1 von der Festplatte verbunden ist, sonst beschädigen sie eventuell ihren Rechner oder Kontroller bzw. die Platte.

Stecken sie jetzt den Kontroller in einen A2000 Steckplatz (bei der Bodega Bay mit den Bauteilen nach unten zeigend).

Montieren sie die Festplatte mit den beiliegenden 4 Schrauben im Gehäuse. Sie können eine Slimline Platte (3,5") auch als Filecard direkt auf die Unterseite des Kontrollers montieren. Benutzen sie dazu die beiliegenden 4 Plastikrollen als Abstandhalter zur Platine, um Kurzschlüße auf dem Kontroller zu vermeiden. Das beiliegende kurze SCSI-Kabel dient dann zur Versorgung der Platte. Die Spannungsversorgung erfolgt wahlweise vom Netzteil des Rechners oder über das Kabel von dem Kontroller (Rot-Schwarz-Gelb).

Verbinden sie nun das SCSI-Flachbandkabel mit der Festplatte.

Nach Verschließen des Rechners können sie jetzt die Festplatte installieren. Festplatten, die wir mitliefern, sind bereits vorinstalliert.

2. Installation

Nach der Montage gemäß Abschnitt 1 legen sie bitte die Diskette *"Auto-Instelt-Disk"* in das Laufwerk *DF0* und schalten ihren Amiga ein.

! **Bei der Erstinstallation einer Festplatte bleibt der Bildschirm ca. eine Minute dunkel, bevor der Rechner bootet. Dies ist ganz normal.**

Jetzt erscheint auf ihrem Bildschirm das ICON *DateFlyerInstall*.
Doppelklicken sie dies und wählen dann im erscheinenden Fenster *Install-HD* mit Doppelklick. Jetzt startet der Installationsprozess. Hierbei werden ihnen Fragen gestellt, die sie beantworten müssen. Diese lauten wie folgt:

> *Do You Want to Set DH0: Auto-Boot ON? (Y/N)*
> Wollen sie die Platte DH0 auf "Automatisch booten" stellen?
> (Y=Ja, N=nein)

mit Y beantworten.

Als nächstes listet der Bildschirm alle 6 möglichen SCSI-Devices auf und zeigt an, welche angeschlossen *(PRESENT)* sind.

Sie sehen: *Choose SCSI - Unit to format [1-6]*

Hier wählen sie aus, welches Gerät sie gerade installieren möchten und geben die entsprechende Nummer *(1-6)* ein.

Jetzt erscheint: *Choose INTERLEAVE factor (1-5, 3 is standard)*
Wählen sie den gewünschten INTERLEAVE Faktor (1-5)

Geben sie die gewünschte Zahl ein (meist 3, da Standard).

Sie sehen jetzt die Laufwerksdaten (Sektoren, Köpfe, BitPerTrack & Cylinder); Sie werden nach der Anzahl der gewünschten Partitionen gefragt:

> *How many DOS Partitions do you want? (1 - 12, 1 is standard)*

Geben sie die gewünschte Anzahl ein (Sie sollten die Anzahl so wählen, daß abhängig von ihrer Plattengröße eine sinnvolle Speichergröße pro Partition entsteht).

Wenn sie das Laufwerk in mehrere Partitionen aufteilen, fragt das Programm automatisch nach der prozentualen Verteilung der Partitionen:

> *Enter % (percent) of drive for Partition 0*

Danach wird automatisch nach der Prozentzahl der weiteren Partitionen gefragt. Nach Eingabe dieser Daten erscheint die Aufteilung der Partitionen in Megabite mit dem Hinweis:

> ** Die Anzahl der MB ist gerundet.

Dann erscheint:

> *Do You Accept These Parameters? (Y/N)*
> Sind diese Angaben richtig? (Y/N)

Geben sie Y ein wenn sie stimmen, N wenn sie diese Parameter ändern wollen. Das Programm fragt dann wieder nach der Anzahl der Partitionen.

Dann erscheint:

> *Do you want to use FastFileSystem (FFS)? (Y/N)*
> Wollen sie FastFileSystem (FFS) benutzen?(Y/N)

Wir empfehlen Y.

Jetzt erscheint:

> *Enter Volume Designator (DH is standard and required for Auto-Boot)*
> Geben sie die Laufwerksbezeichnung ein (DH für Auto-Boot)

Geben sie DH ein.

Jetzt sehen sie:

> *Do you wish to continue to Format and Prep Unit [..x..] ? (Y/N)*
> Wollen sie weitermachen und das Laufwerk [..x..] formatieren?

Gleichzeitig erscheint die Warnung:

> Wenn sie weitermachen werden alle auf der Platte befindlichen Daten gelöscht.

Geben sie zum Formatieren Y ein.

Jetzt wird die Festplatte formatiert, Bootsektoren etc. werden montiert und die Startdiskette mit der Workbench wird auf die Platte kopiert. Am Ende des Vorganges entnehmen sie die Diskette und starten den Rechner neu. Er bootet jetzt von der Platte.

3. Kopieren von Programmen

Legen sie jetzt eine Kopie Ihrer Workbench Diskette in das Laufwerk DF0 und kopieren sie das *FastFileSystem* auf Ihre Workbench und diese dann auf die Festplatte. Dies geschieht wie folgt:

Legen sie die Workbench Kopie in DF0.
Öffnen sie das Fenster der Platte und starten sie SHELL.
Geben sie folgenden Befehl ein:

Copy from DH0:L/FastFyleSystem to DF0:L/FastFyleSystem
dann: Copy from DF0: to DH0:

* Dieser Schritt ist notwendig, um zu garantieren, daß das *FastFileSystem* der Platte und Ihrer Workbench identisch sind. Diese Kopie der Workbench kann auch zum booten benutzt werden. Ihre original Workbench verwahren sie bitte an einem sicheren Ort.

II Für andere Softwarepakete richten sie sich bitte nach deren Anleitung oder setzen sich mit den Herstellern in Verbindung.

Wenn sie versehentlich von einer Diskette mit unterschiedlichem *FastFileSystem* booten wollen, kann es sein, daß ihr Rechner nicht startet. Dies zeigt sich in einem pulsierenden Licht der Spannungslampe am A500. Bedingt ist dies durch Zurückschreiben einer falschen Adresse beim Suchen nach dem SCSI-device. Sie beheben den Fehler wie folgt:

Schalten sie den Rechner aus, legen ihre Workbench Diskette ein, halten die linke Maustaste gedrückt und schalten den Rechner wieder ein. Dadurch zwingen sie den Rechner von der Diskette zu booten ohne nach der Festplatte zu suchen. Jetzt können sie ihre Platte überprüfen oder neu einrichten.

Für weitere Fragen wenden sie sich bitte an:

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44862 Osgood Road
Fremont CA 94539

oder an

ETS European Trade Support
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8011 Hohenlinden
Tel.: 08124-7767